

The Initial Response to Substance Abuse Treatment and Long-Term Outcomes

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The opinions are those of the author and are not official positions of the government.*

Objectives

- To examine the patterns of treatment over multiple treatment episodes and time,
- To identify the major patterns of recovery after a referent treatment episode, and
- To predict long-term recovery based on prior treatment, severity, current treatment, the initial response to treatment and the receipt of subsequent treatment.

Background

- While most clinicians view substance use as a chronic relapsing condition, most programs are still evaluated as though it was an acute condition.
- In evaluating the long-term outcomes of treatment, it is important to consider other predictors of poorer prognosis including:
 - treatment episodes before the referent treatment
 - substance use severity at intake to the referent treatment
 - continued use after the referent treatment
- Conversely, we also want to consider the positive impact when people who did not initially respond to treatment do get subsequent treatment.

Design

- The baseline sample of 1,326 clients was recruited from sequential admissions during 1996-1998 to a clustered sample of 22 treatment units in 12 facility locations, administered by 10 agencies on Chicago's west side.
 - 258 (19%) from 11 Outpatient Treatment Units
 - 240 (18%) from 5 Intensive Outpatient Treatment Units
 - 253 (19%) from 3 Methadone Maintenance Treatment Units
 - 268 (20%) Females from 2 short-term inpatient programs
 - 175 (13%) Females from 1 long-term inpatient unit
 - 134 (10%) males from 1 halfway house

Design (continued)

- All clients were interviewed at intake with an expanded version of the Addiction Severity Index (ASI), the GAIN General Mental Distress Index (GMIDI) and several other measures.
- The internal consistency matched or slightly exceeded the published norms and there was good agreement between self reports on urine test data.
- Initial response to treatment is based on 6-month follow-up interviews with 98% (1291/1324) of the living clients.
- Long-term outcomes are based on 24-month follow-up interviews with 94% (1218/1300) of the living clients.

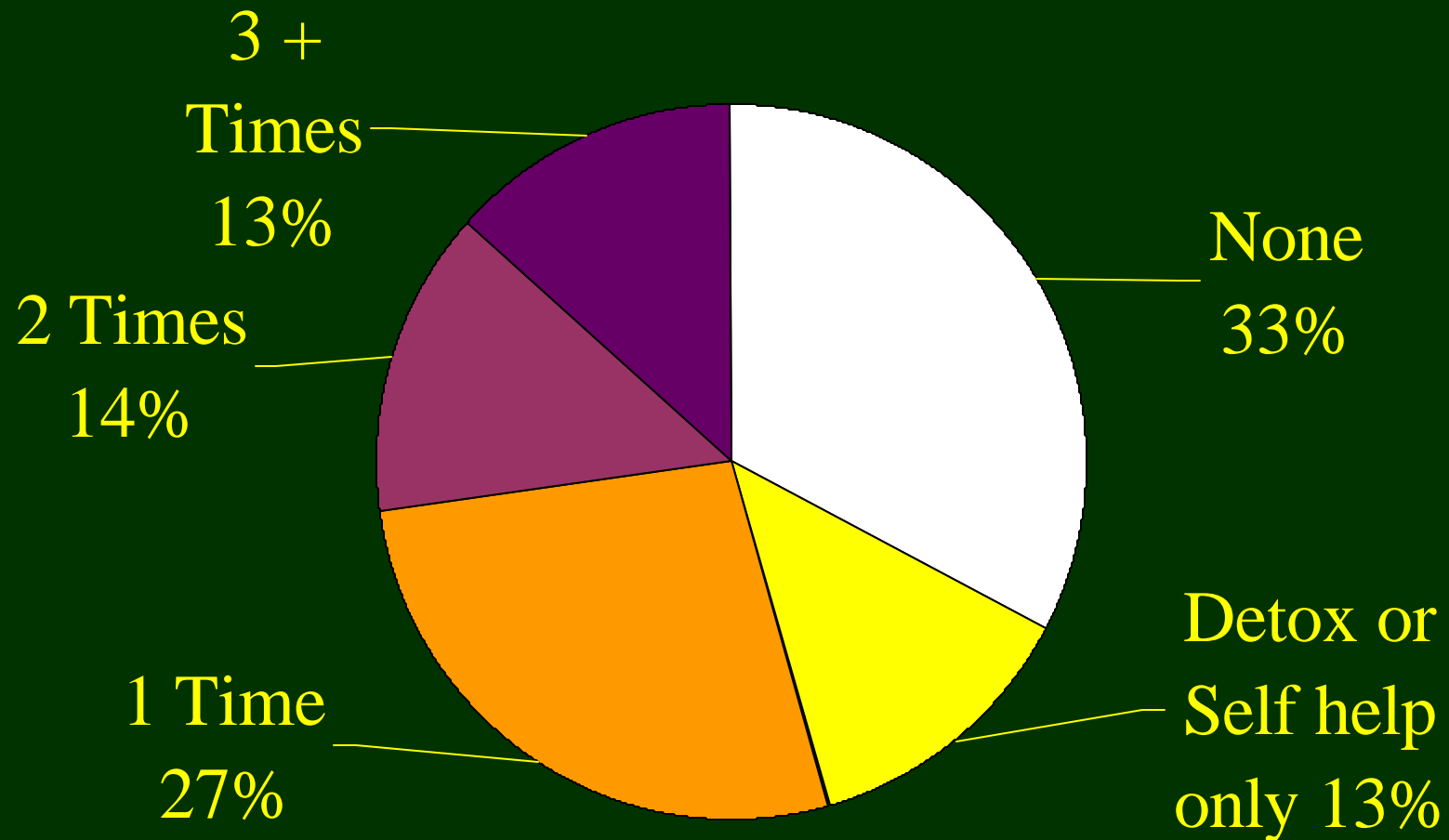
Intake Characteristics

- Demographically, the clients were mostly African-American (88%), Female (59%), and in their 30s (48%).
- Most were Unemployed (86%), High School Drop Outs (71%), and had never been married (65%).
- About 25% were currently on probation or parole; with more having histories of arrest (76%) and prior incarcerations (66%).
- About 32% considered themselves homeless, with 12% living on the street at intake.

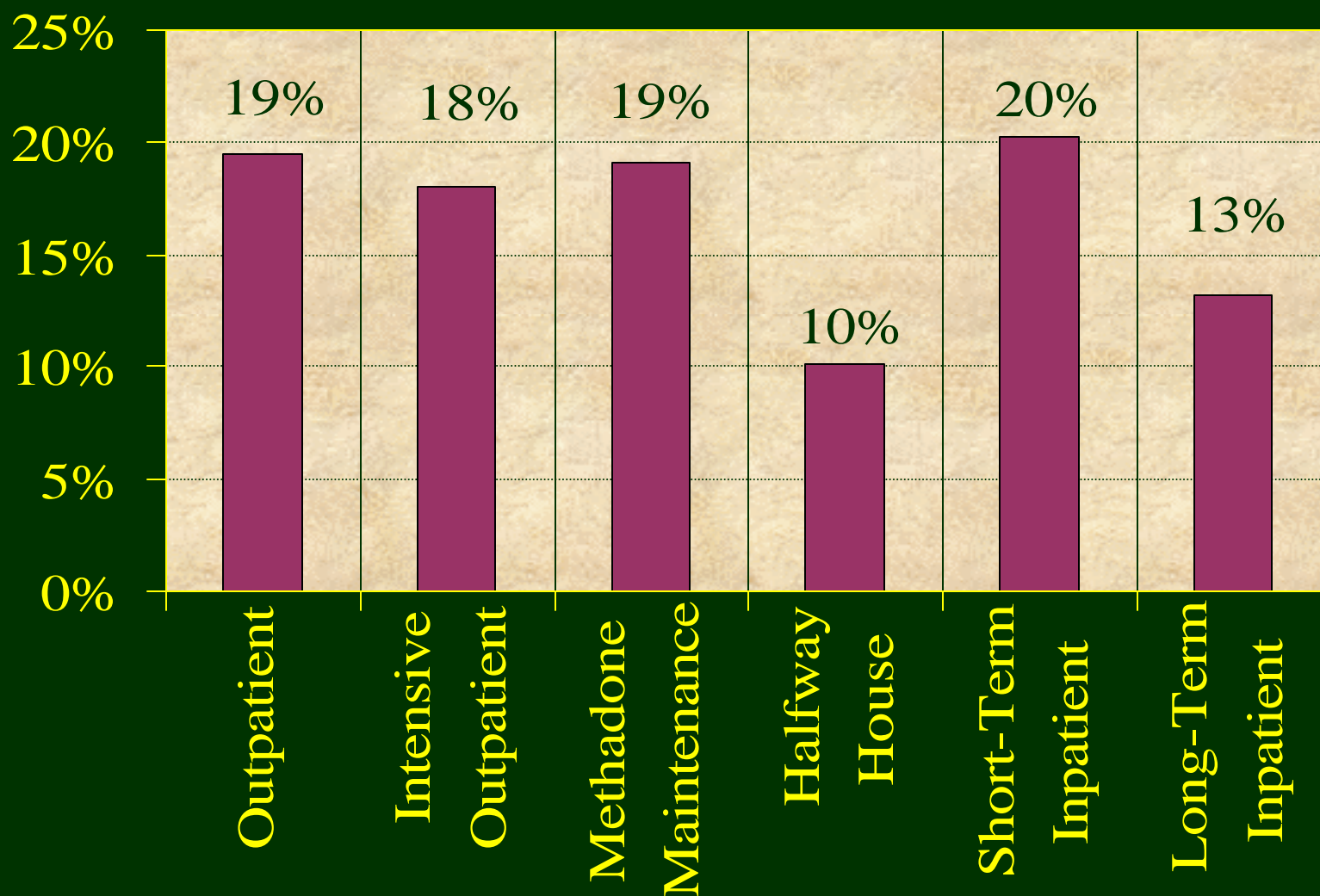
Clinical Characteristics

- The average age of first use was 16.8, with most (68%) reporting 10 or more years of regularly using alcohol to intoxication or regularly using another drug.
- In the month prior to intake, the most common substances used weekly were: cocaine (33%), heroin (31%), alcohol (27%), and marijuana (7%).
- Many met criteria for Major Depression (36%) or Generalized Anxiety Disorder (36%).
- Most also had a history of physical (50%), emotional (36%), and/or sexual (22%) victimization.

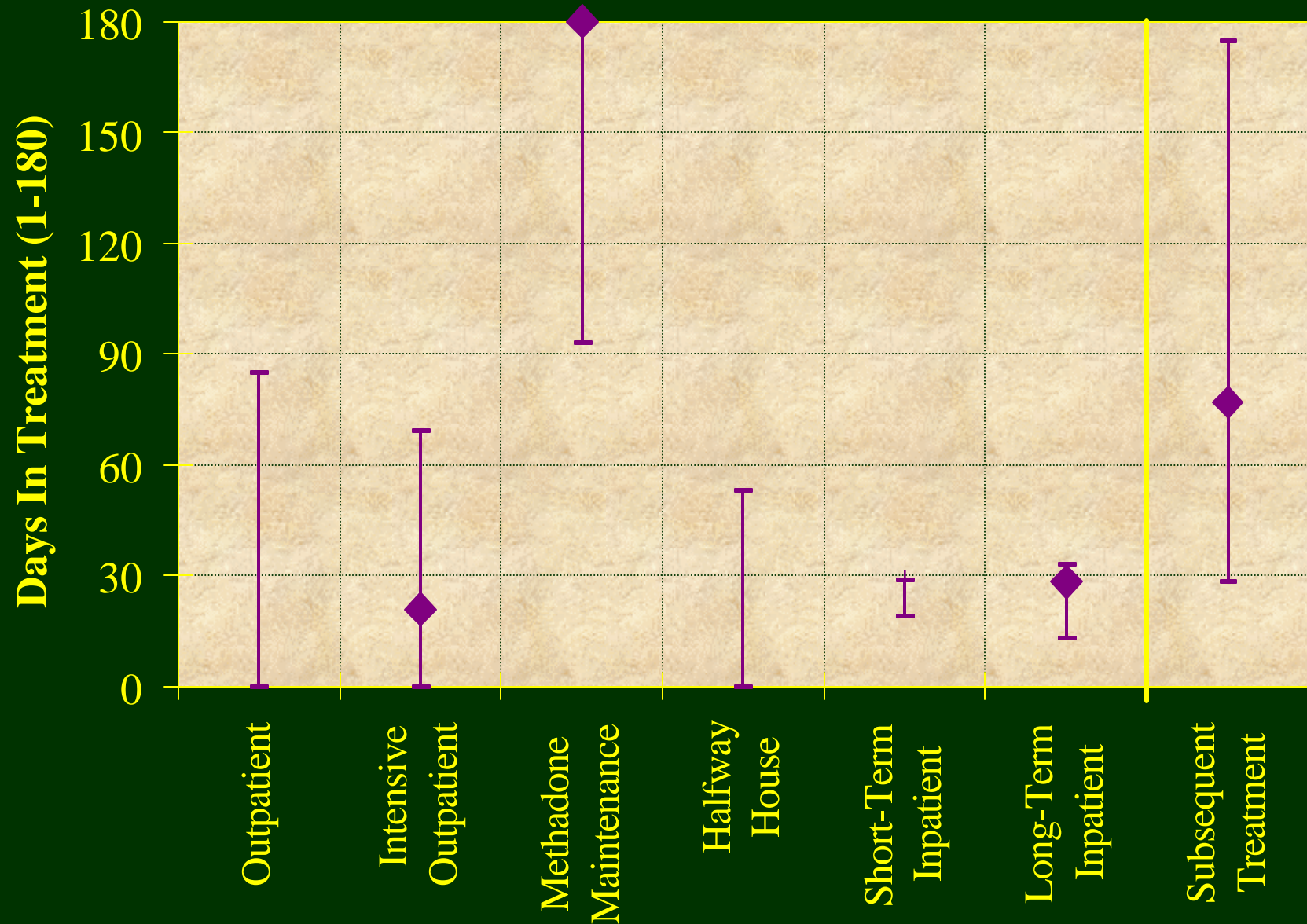
Previous Substance Abuse Treatment



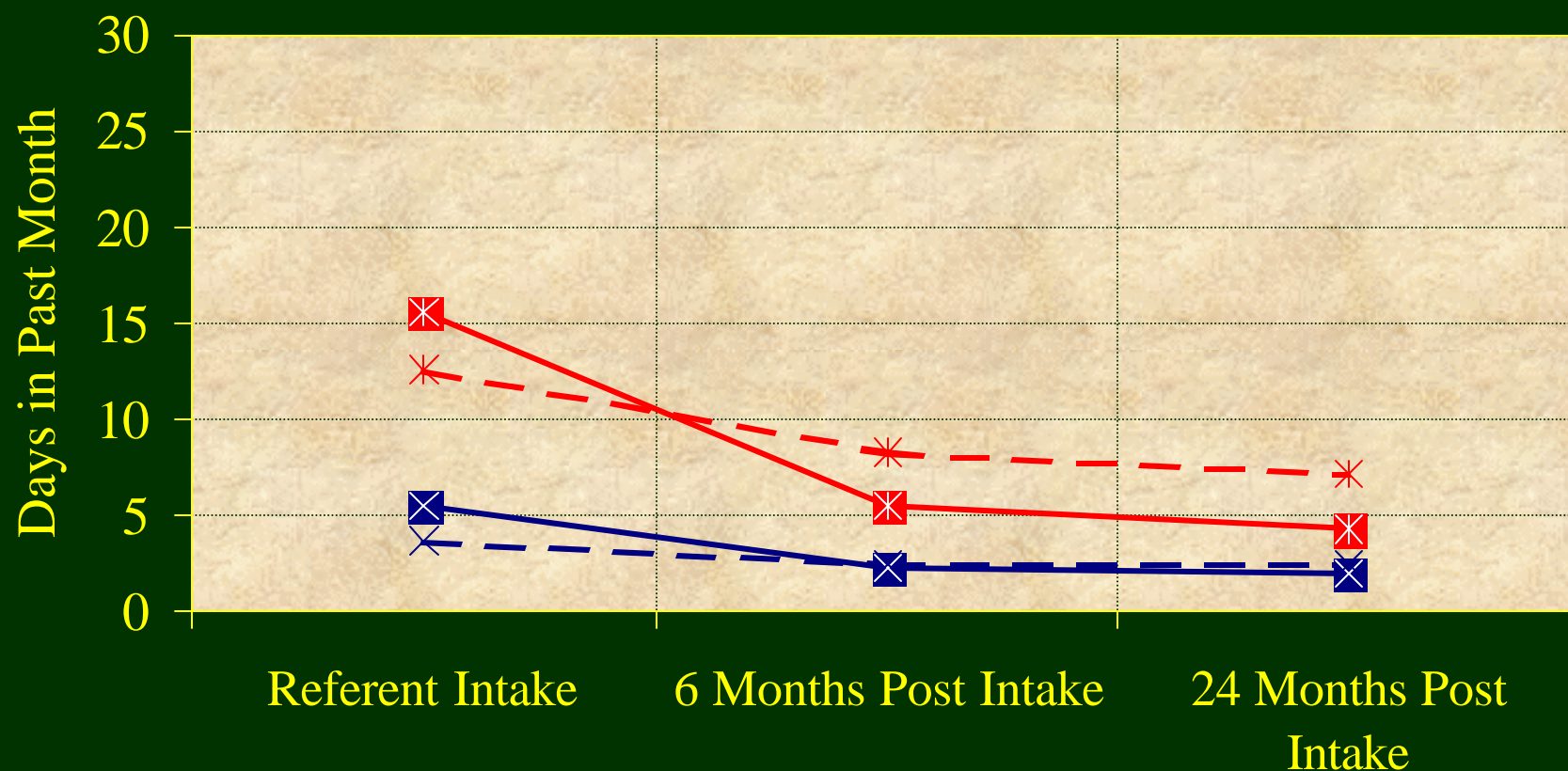
Type of Referent Treatment Received



Median and IQR Days of Treatment Received



Overall Reductions in Days of Use and Problems



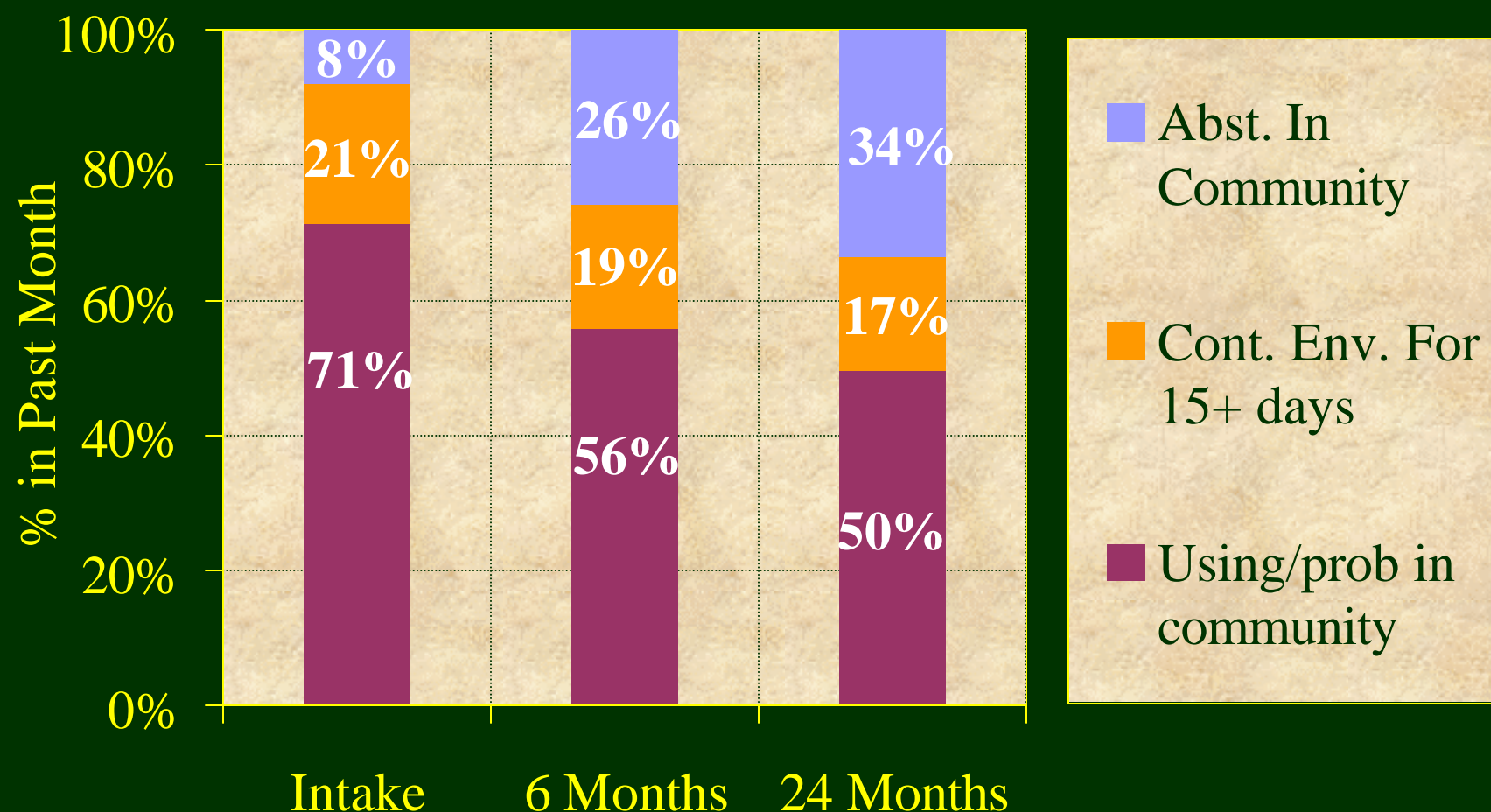
—x— Days of Drug Problems

—*— Days of Any Drug Use

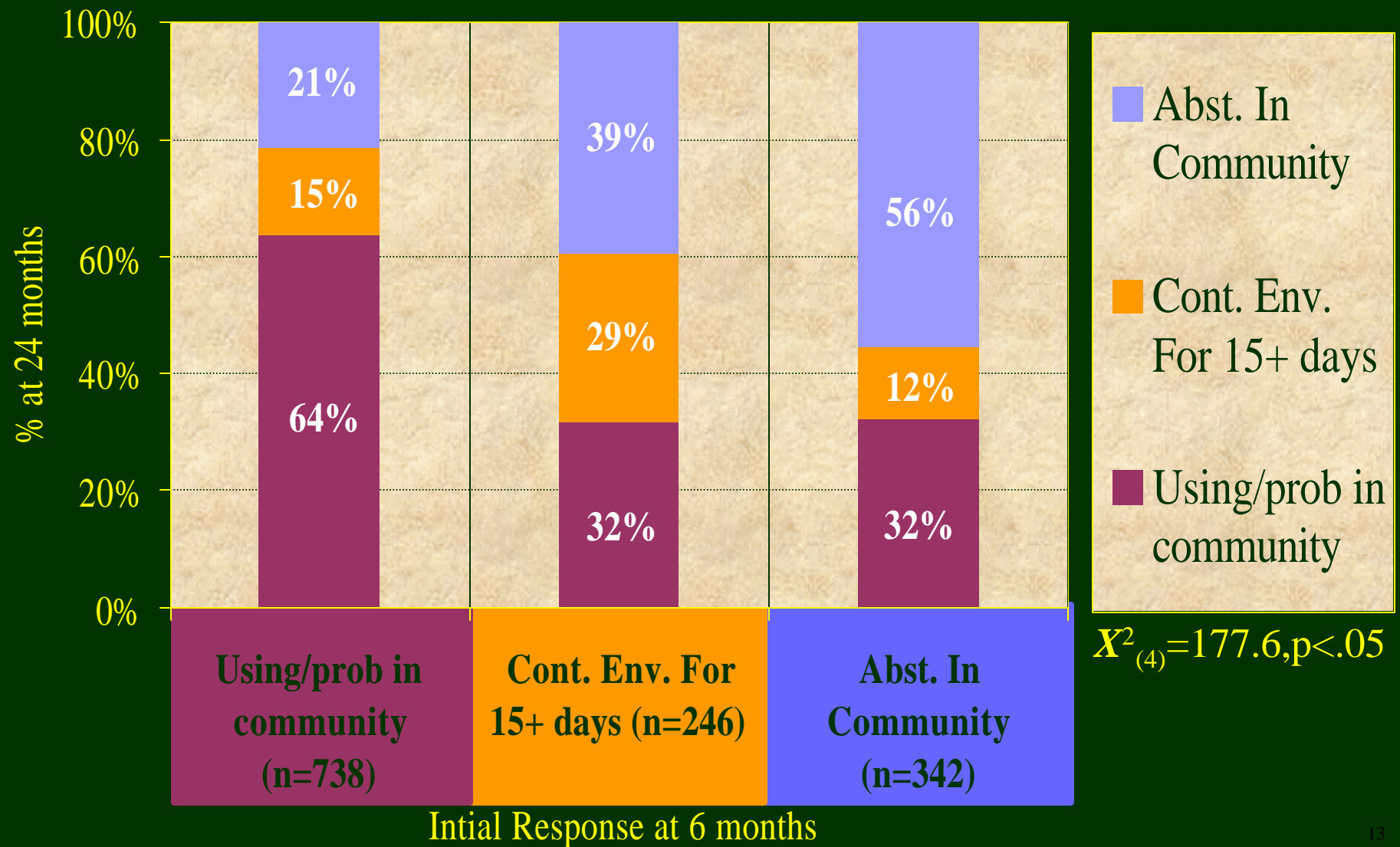
—x— Days of Alcohol Problems

—*— Days of Intoxication

Increasing Rates of Being Abstinent and Problem Free while in the Community



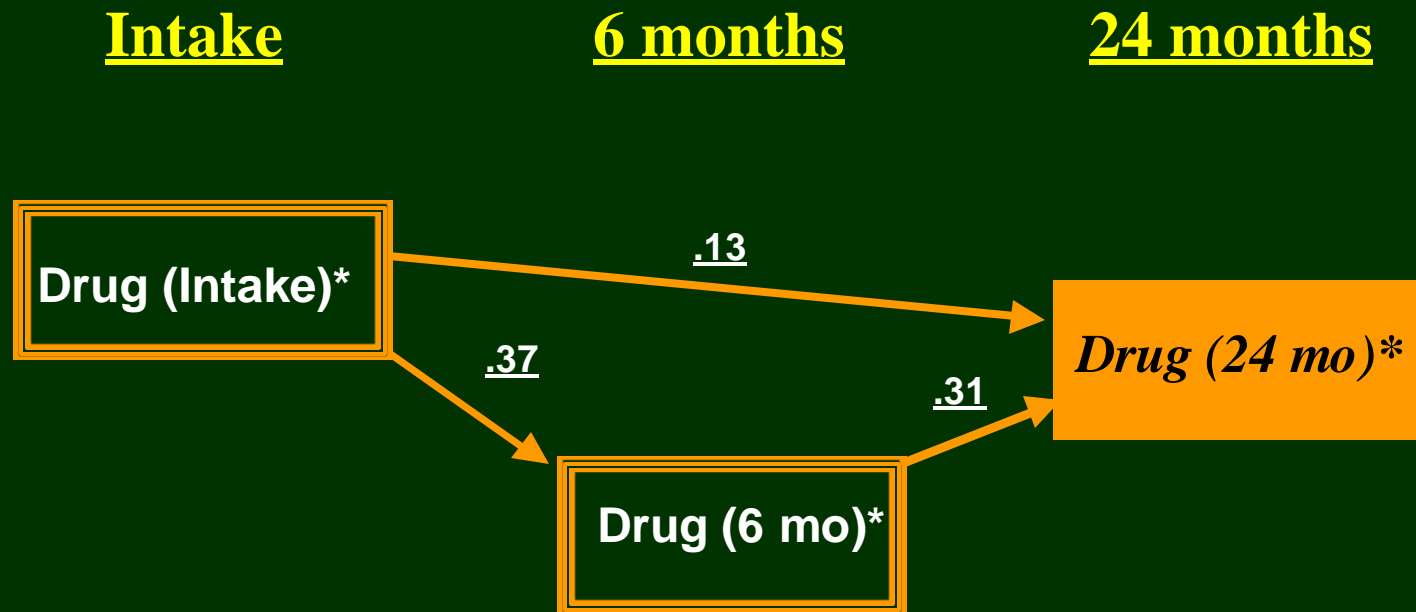
Long Term (at 24 month) Outcomes by Initial Response to Treatment (at 6 months)



Terms for Evaluating Path Models

- **Comparative Fit Index (CFI):** Compares the research model with an independence (no covariance) model and is adjusted for sample size; Running 0-1, the CFI should be over .9.
- **Parsimony-adjusted CFI (PCFI):** Used for comparing models with different degrees of freedom; ranging from 0 to 1, higher scores are better when all other things are equal.
- **Root Mean Square Error of Approximation (RMSEA):** The discrepancy between the observed and null model per degree of freedom; ranging from 0 to 1, the RMSEA needs to be below .10, with .08 being good and .05 or less being great.
- **Standardized Path Coefficients:** This is the partial correlation (direct effect) between two variables; Ranging from 0 to 1, .1 is a small effect, .2 a moderate one, and .4 or more a large effect.
- **R-square (R^2):** The percent of variance explained in the ASI drug composite index at 24 months; ranges from 0 to 100%.

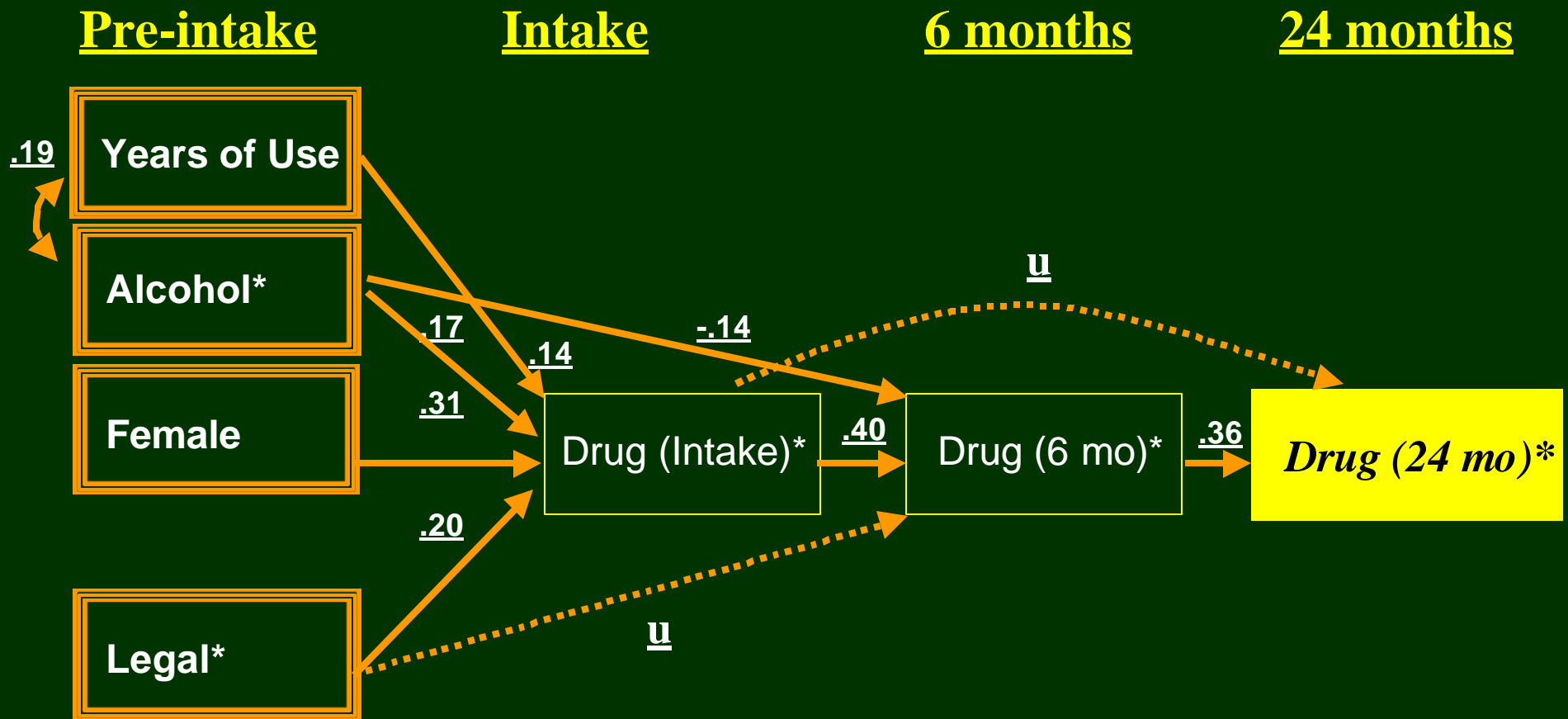
Path Model 1. Prediction Of Long-Term Outcomes



* based on ASI composite score

CFI=1.00, PCFI=.00, RMSEA=inestimable, $R^2=13\%$

Path Model 2. Controlling for Pre-intake Differences

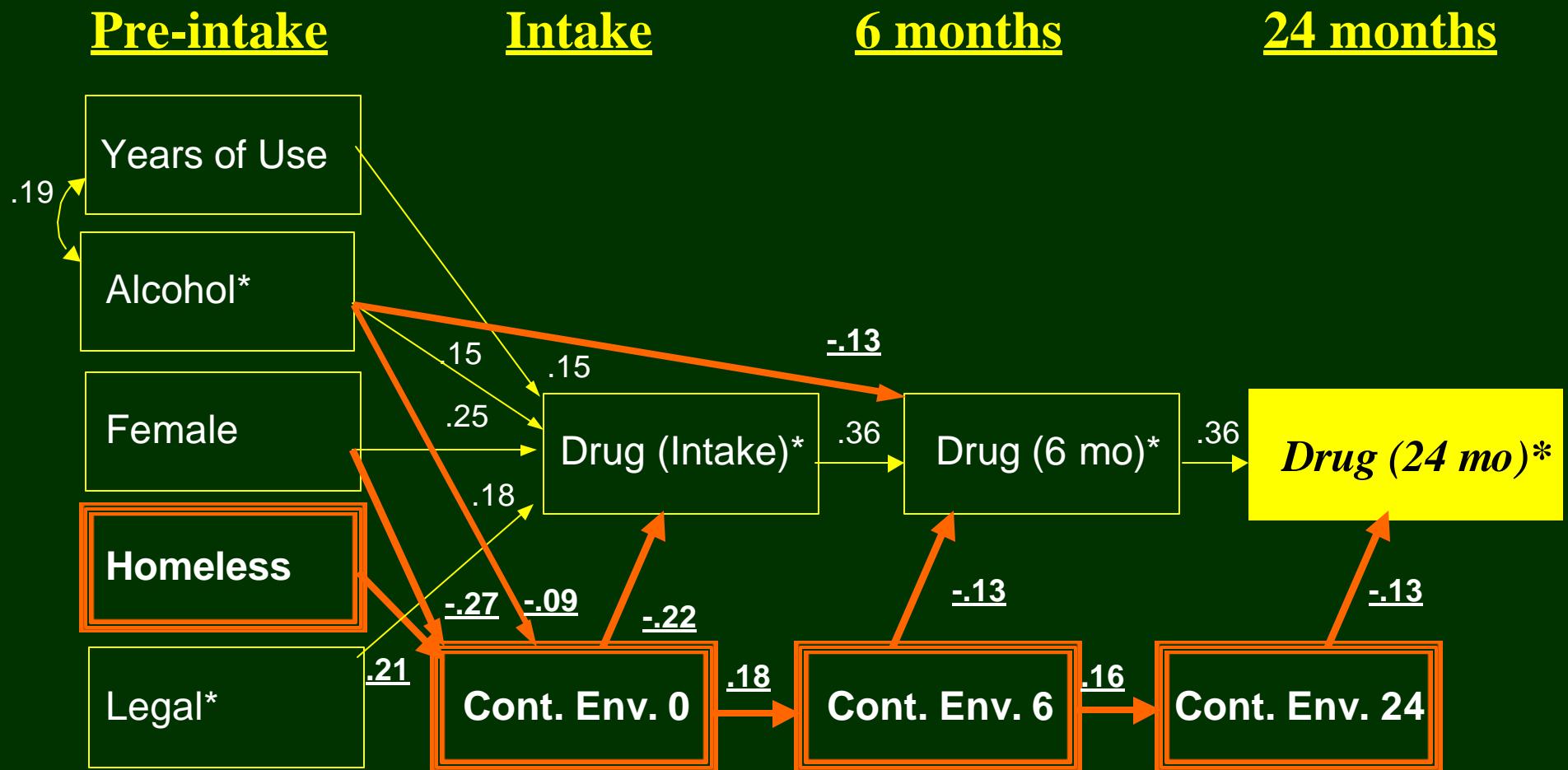


u significant, but unnecessary

* based on ASI composite score

CFI=.99, PCFI=.46, RMSEA=.05, R²=13% 16

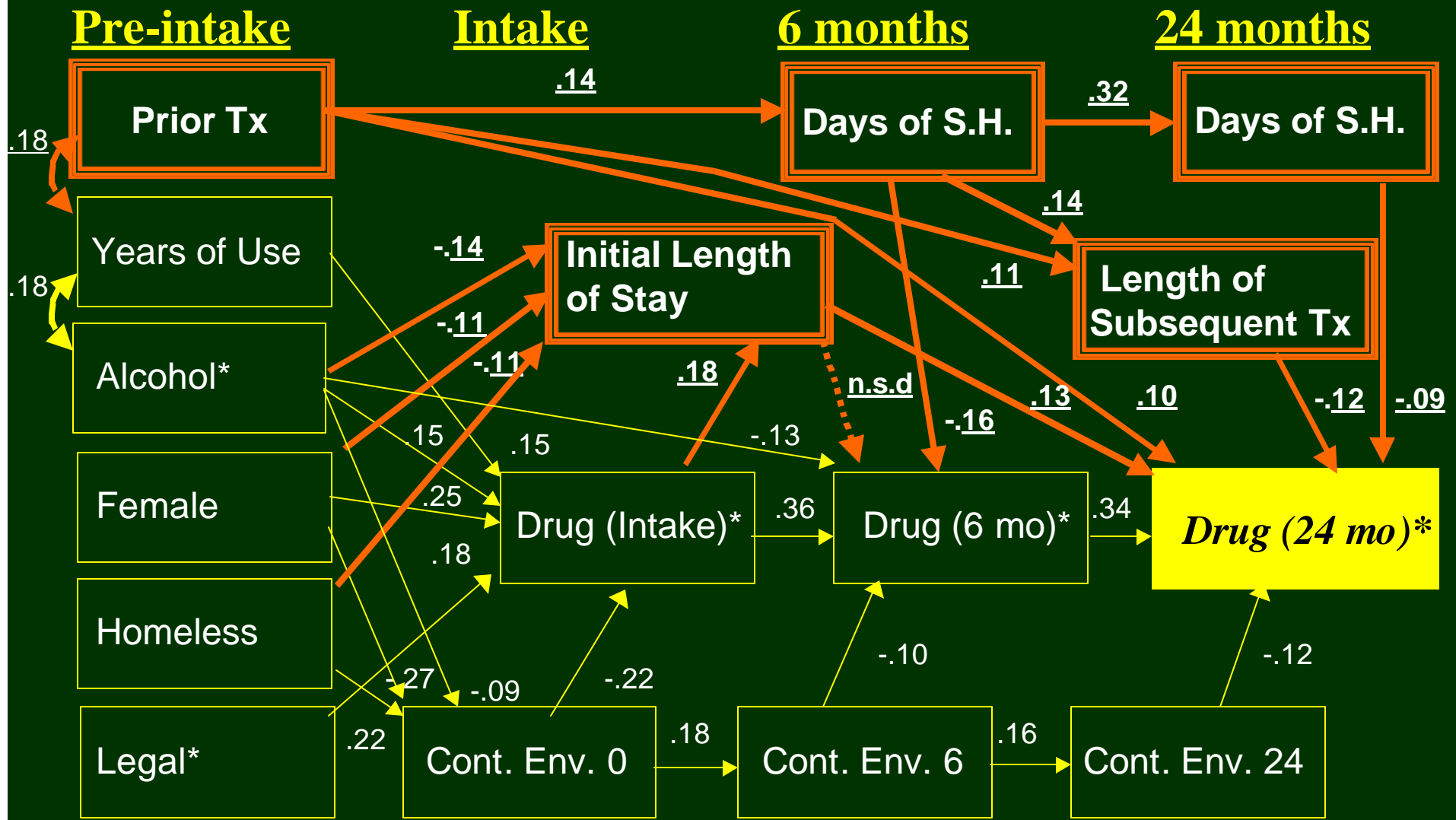
Path Model 3. Adding Controlled Environment



* based on ASI composite score

CFI=.99, PCFI=.58, RMSEA=.05, R²=15%

Path Model 4. Adding Treatment



* based on ASI composite score

CFI=.98, PCFI=.65, RMSEA=.05, R²=18%

Implications

- Most patients go through multiple treatment episodes in order to recover.
- Treatment is associated with both short- and long-term improvements.
- The effects of treatment actually appear to be more apparent over several years than immediately afterwards.
- The initial response to treatment is one of the better predictors of longer-term outcomes.

Implications (continued)

- To evaluate the long-term impact of a given treatment episode, it is essential to also examine the role of
 - intake characteristics,
 - time in controlled environment,
 - prior treatment,
 - alternatives sources of support (e.g., self help), and
 - subsequent treatment.
- We need to start looking at other factors that interplay with recovery (e.g., relationships)

Next Steps

- We are currently completing follow-up interviews at 36 months, halfway through our 48-month wave and about to start our 60-month wave (all over 90%),
- Validating urine and self reported data,
- Looking at the predictors of who will be able to sustain their recovery, and
- Conducting an experiment (in a separate study) to try to reduce the time to readmission following a relapse in order to improve long-term outcomes.

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